

What is claimed is

1. A method for treating chlorinated organic materials, comprising:
adding a chlorinated organic material to a solvent;
filtering said solvent through a filtering material containing said chlorinated organic material;
adding a quantity of an aliphatic alcohol to said filtered solvent containing said chlorinated organic material;
adding a quantity of sodium hydroxide to said filtered solvent containing said chlorinated organic material;
adding at least one catalyst material to said filtered solvent containing said chlorinated organic material; and
hydrogenating said filtered solvent containing said chlorinated organic material,
wherein said step of hydrogenating said filtered solvent containing said chlorinated organic material includes the steps of pressurizing and heating said filtered solvent containing said chlorinated organic material.
2. The method of claim 1, wherein said chlorinated organic material is added to an organic solvent.

3. The method of claim 1, wherein said solvent is at least one solvent selected from the group consisting of benzene, toluene, xylene, ethylbenzene, methylcyclopentane, and cyclohexane.
4. The method of claim 1, wherein said chlorinated organic material is at least partially dissolved in said solvent.
5. The method of claim 1, wherein said step of filtering said solvent containing said chlorinated organic material occurs at an elevated temperature.
6. The method of claim 5, wherein said elevated temperature is between approximately 60 °C and approximately 110 °C.
7. The method of claim 1 wherein said filtering material unwoven is capable of separating waste particles of no less than approximately 1 micron in size.
8. The method of claim 1, wherein said filtering material is at least one material selected from the group consisting of a polymeric fabric, a thick felt, ceramics, metal-ceramics, porous metals.
9. The method of claim 1, further comprising filtering said solvent containing said chlorinated organic through a filter of unwoven polymer fabric.
10. The method of claim 9, wherein said unwoven polymer fabric has a ratio of thickness to warp of approximately 1:100 and a ratio of thickness to weft of 1:60.
11. The method of claim 9 wherein said unwoven polymer fabric has a ratio of thickness (measured in mm) to warp of at least 1:90 and a ratio of thickness to weft of at least 1:50.

12. The method of claim 1, wherein said aliphatic alcohol is at least one selected from the group consisting of methanol, ethanol, propanol, iso-propanol, n-butanol, s-butanol, n-pentanol, and isomeric iso-pentanol.
13. The method of claim 1, wherein said aliphatic alcohol is a lower aliphatic alcohol containing between 1 and 6 carbons.
14. The method of claim 1, wherein said ratio of said sodium hydroxide to said chlorinated organic material is approximately 0.7-2:1 by weight.
15. The method of claim 1, wherein said quantity of sodium hydroxide is a 5-25% solution of sodium hydroxide.
16. The method of claim 1, wherein said at least one catalyst material is selected from the group consisting of palladium, platinum, and nickel.
17. The method of claim 1, wherein said at least one catalyst material is added in a quantity of between approximately 0.01 and 0.02 grams of catalyst material per gram of chlorinated organic material.
18. The method of claim 1, wherein said step of hydrogenating said filtered solvent containing said chlorinated organic material comprises hydrogenating in a vented vessel.
19. The method of claim 1, wherein said step of hydrogenating said filtered solvent containing said chlorinated organic material comprises exposing said filtered solvent containing said chlorinated organic material to at least one hydrogen gas source.

20. The method of claim 1, wherein said step of pressuring said filtered solvent containing said chlorinated organic material comprises pressuring with hydrogen gas.

21. The method of claim 1, wherein said step of pressuring said filtered solvent containing said chlorinated organic material comprises pressuring with hydrogen gas to an elevated pressure.

22. The method of claim 1, wherein said step of pressuring said filtered solvent containing said chlorinated organic material comprises pressurizing with hydrogen gas to a pressure between 10 and 60 atmospheres.

23. The method of claim 1, wherein said step of heating said filtered solvent containing said chlorinated organic material comprises heating to a temperature between approximately 60 °C and approximately 130 °C.

24. The method of claim 1, wherein said step of heating said filtered solvent containing said chlorinated organic material comprises heating in an autoclave.

25. The method of claim 1, further comprising the step of analyzing at least one of said solvent and said chlorinated organic material.

26. The method of claim 25, wherein said step of analyzing said at least one of said solvent and said chlorinated organic material comprises a chromatographic analysis.